

Amendments to the Specification

Please replace the title as follows:

~~EVAPORATOR TUBE FOR A SEA WATER DESALINATION PLANT~~
EVAPORATOR TUBE FOR A SEA WATER DESALINATION SYSTEM

Please replace the paragraph beginning on page 2, line 29, through line 32, with the following rewritten paragraph:

~~The invention is therefore based on the objective of~~ It is an object of the invention to
further ~~developing~~ develop an evaporator tube for a sea water desalination system in such a
way that it overcomes at least one of the drawbacks of the prior art while furthermore being
suited for use in intermittently operated sea water desalination systems.

Please replace the paragraph beginning on page 2, line 34, through line 37, with the following rewritten paragraph:

This object is attained through an evaporator tube having the features of Claim 1. Thus,
in accordance with the invention, ~~it~~ the tube is for the first time ~~provided to be~~ formed of a
steel that is resistant against sea water, and at the same time is acid resistant, and ~~to have~~ has a
wall thickness between 0.1 mm and 0.5 mm.

Please replace the paragraph beginning on page 3, line 17, through line 25, with the following rewritten paragraph:

In accordance with one embodiment of the invention, it is now thus for the first time
possible to also use evaporator tubes of steel for an economical operation of a sea water
desalination system, which moreover results in a substantially higher corrosion resistance

than was the case with the conventional evaporator tubes. As such steels are moreover more stable against lower pH values, they may advantageously also be used in systems where acid is added to the sea water prior to the evaporation process, whereby scaling on the evaporator tubes may reliably be prevented. The evaporator tube of the invention thus is also particularly well suited for wind energy-powered sea water desalination systems.

Please replace the paragraph beginning on page 3, line 27, through line 32, with the following rewritten paragraph:

It is ~~another~~ an additional, independent advantage that tubes of such steels are available at competitive pricing. The wall thickness of the evaporator tube of the invention is then limited to a minimum of about 0.1 mm because of the required mechanical stability. Such very thin tubes are particularly suited for systems where a higher pressure prevails in the tube cavity than on the outside, i.e., for systems where the distillate condenses on the inside of the tube.

Please replace the paragraph beginning on page 3, line 34, through page 4, line 2, with the following rewritten paragraph:

Thanks to the advantageous strength properties of the like stainless steels when compared, e.g., with conventional CuNiFe materials, these may in accordance with an embodiment of the invention also be used in systems where a lower pressure prevails inside the tube cavity than on the outside. This is particularly the case with falling film evaporators. Despite the low wall thickness, buckling of an evaporator tube may thus reliably and lastingly be avoided in accordance with the invention.

Please replace the paragraph beginning on page 4, line 4, through line 7, with the following rewritten paragraph:

It is ~~a further~~ another additional, independent advantage that the weight of the evaporator tube and thus also of the bundle of evaporator tubes in a sea water desalination system may be kept low thanks to the wall thickness selected to be low in accordance with the invention.

Please replace the paragraph beginning on page 4, line 13, through line 14, with the following rewritten paragraph:

Advantageous ~~developments~~ further embodiments of the invention are subject matter of the appended claims.

Please replace the paragraph beginning on page 4, line 24, through line 27, with the following rewritten paragraph:

It was furthermore found to be most suitable ~~for the~~ in cases of usual applications if the wall thickness of the evaporator tube is between 0.2 mm and 0.3 mm. Such a wall thickness represents a good compromise between the functional requirements and the handling properties of such evaporator tubes.

Please replace the paragraph beginning on page 4, line 29, through line 36, with the following rewritten paragraph:

It ~~is~~may furthermore be advantageous if the evaporator tube is formed of a sheet metal and produced by welding, for it may then be furnished at a particularly low cost. Such steel sheets or ribbons may be shaped in the desired manner at low technological expenditure, and welded in order to produce the tube structure. Here it is possible in particular by the use of an automatic laser welding technique to produce high-quality welded seams having a corrosion resistance on a par with that of the tube, so that the connection will not represent a weak point on the evaporator tube of the invention. The evaporator tube of the invention may thus be furnished at even lower cost.

Please replace the paragraph beginning on page 5, line 1, through line 22, with the following rewritten paragraph:

Furthermore a tube end of the evaporator tube may be connected with a tube bottom comprised of the same kind of steel. This has the further advantage that the tube bottom necessary for mounting and guiding the evaporator tubes then has the same thermal expansion coefficient as the evaporator tube, and that there is no different corrosion potential, as would be the case with a use of two different metallic materials having a different standard electrode potential in the electrochemical series of metals. In practical experimentation it was found to be particularly advantageous and economical if the tube end is connected with the tube bottom by welding, preferably by laser welding. In the case of a sufficient wall thickness, the tube end may also be welded directly with the tube bottom. Here it should furthermore be considered that the tube bottom not only serves for mounting at the ends of the evaporator tubes, but by means of this tube bottom or of several ones of these tube bottoms, spaces for the evaporating sea water and the condensed distillate may be separated from each other. For this purpose, plastics or rubber seals are traditionally necessary between an evaporator tube

and the recess in the tube bottom, which seals may be omitted thanks to welding of these components as provided in accordance with the invention. It was moreover found in practical experimentation that such welding produces a better and more reliable separation of the zones for sea water and distillate than was the case with the aid of seals. Thus the susceptibility to trouble may be reduced substantially in this way. An additional advantage resides in the fact that owing to the omission of the multiplicity of required seals in accordance with the number of evaporator tubes in the sea water desalination system, it is also possible to achieve a considerable cost advantage.

Please replace the paragraph beginning on page 5, line 24, through page 6, line 3, with the following rewritten paragraph:

It ~~is~~may moreover be advantageous if the cross-section of the evaporator tube differs from a circular shape. In other words, the line of intersection for a cut perpendicular to the tube axis, or an oblique cut, may at least in places differ from the circular shape or from an elliptic shape, which may be brought about by shaping the tubes, e.g., by impressing continuous helices. This results in the generation of additional turbulences in the falling film, whereby the heat transfer may be improved. Another improvement of the heat transfer moreover results from the surface enlargement of the tube wall brought about by shaping. Through such shape changes in the evaporator tube, the falling film may moreover be deflected from the direction occasioned by gravity, which makes it difficult for the liquid film to be disrupted, and reduces the risk of a formation of dry spots not wetted by the falling film. In this way the efficiency of a sea water desalination system may be enhanced, and moreover the risk of scaling on the wall of an evaporator tube is reduced. Shaping of the tube wall preferably is carried out in such a manner that the installation of the evaporator tubes and

their connection with the tube bottom is not made problematic. Such is the case, e.g., if the tube diameter in the shaped zone is not greater in any place than the diameter of the non-shaped tube, and/or if the zones intended for connection with the tube bottoms are not shaped.

Please replace the paragraph beginning on page 6, line 10, through line 11, with the following rewritten paragraph:

In addition to the ~~shown-embodiment~~ as described, the invention allows for ~~further configurational approaches~~ many other embodiments.